Burramys parvus Broom (Marsupialia) from Falls Creek area of the Bogong High Plains, Victoria

by Joan M. Dixon*

Abstract

A live female specimen of *Burramys parvus* was collected on 23 February 1971 by the author when carrying out a mammal trapping programme close to Falls Creek at approximately 1798 m. (5900 ft.). This is only the second specimen of this species collected in Victoria. A study of the species and its ecology is in progress.

History of Species

Robert Broom, a Scottish doctor and naturalist, located bones of a small marsupial in the Wombeyan Caves, New South Wales in 1894. He described these as a new genus and species, *Burramys parvus* Broom, 1896. At that stage the affinities of this species were not known, and despite work on the Wombeyan fossil material which was carried out by Ride (1956, 1964), and on subsequently located Buchan Caves material by Wakefield (1960), the status of *B. parvus* remained conjectural.

In 1966, a small possum was found in a ski hut at Mt. Hotham, Victoria, by Dr. K. Shortman who took it to the Fisheries and Wildlife Department, Melbourne (Ride 1970). It was identified as a living *Burramys* by Mr. N. A. Wakefield. This specimen, a male, was kept in the hope that more specimens would be located, but attempts to do this were unsuccessful, and it died nine months later. Its skin and skeleton are lodged in the National Museum of Victoria, registered number C7290.

Early in 1970, a live *Burramys* was trapped in the Kosciusko National Park, N.S.W., by Dr. I. and Mrs. J. McT. Cowan, from Canada, who were working there with a team from C.S.I.R.O., Canberra. Further field work led to the capture of two more specimens which were taken to Canberra for study.

On 19 and 20 February, 1971, the author attended an Alpine Forum conducted by the Natural Resources Conservation League of Victoria and held at Mt. Beauty in north-east Victoria. Following this, she spent five days in the field trapping mammal species at increasing altitudes from Howmans Track 1128 m. (3700 ft.) to the granite strewn peaks above Falls Creek at 1798 m. (5900 ft.). It was in the latter area, approximately 7.2 km. (4.5 miles) south-west of Falls Creek (Lat. 36° 53′ S; Long. 147° 15′ E) that a specimen of *Burramys* was trapped. (Plate 1).

During the following week, three more specimens of *Burramys* were trapped at Mt. Hotham by officers of the Fisheries and Wildlife Dept.

Materials and Methods

Traps were of the folding aluminium type, and included Sherman's 23 x 8 x 9 cm. and Elliott's 32.5 x 9.5 x 10 cm. Twenty-one traps were set in the area on this occasion. Bait used was walnut, a peanut butter honey and oatmeal mixture, or both. The *Burramys* was captured in a

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Plate 1.

Hill close to study area showing characteristic granite tors.

Photo: Joan M. Dixon.

Sherman trap which contained both baits. No other mammal species was captured on that night. However, on subsequent occasions *Antechinus swainsonii* was collected in large numbers, and skinks *Egernia whitii* and *Sphenomorphus tympanum* were also trapped. There was no evidence from trapping of the presence of the allied rat, *Rattus fuscipes assimilis* in the area. Large scats deposited on rocks and tracks appear to be from the fox *Vulpes vulpes*. Large tracks throughout the area are made by cattle which browse herbs and larger shrubs, and clamber among the

Plate 2. Study area showing alpine shrubs and snow gums. *Burramys* capture site is arrowed.

Photo: Joan M. Dixon.

granite tors. The *Burramys* was collected close to such a track.

Description of Area

The hillside faces almost due west, and the granite tors which may form large outcrops several metres across occur in both the alpine heath and snow gum areas (Plate 2). Good cover is provided for small mammals and reptiles in both areas, and particularly the latter in view of the heavy snow blanket present for a large part of the year. It was in this location, at the edge of the tree line, in the shelter of several granite boulders, under cover of stunted snow gums scarcely exceeding three metres in height, and larger alpine shrubs about a metre high, that *B. parvus* was trapped (Plate 3).

The following plant species were collected within a radius of approximately twenty metres of the *Burramys* location.

1. *Eucalyptus pauciflora* var. *alpina*	White Sallee
2. *Orites lancifolia*	Alpine Orites
3. *Prostanthera nivea*	Snowy Mint-bush
4. *Drimys xerophila*	Alpine Pepper
5. *Euphrasia glacialis*	Glacial Eyebright
6. *Oxylobium alpestre*	Mountain Shaggy-pea
7. *Hovea longifolia* var. *alpina*	Alpine Hovea
8. *Poa australis*	Tussock grass
9. *Stylidium graminifolium*	Grass Trigger Plant
10. *Phebalium squamulosum* var. *alpinum*	Phebalium
11. *Olearia frostii*	Daisy-bush
12. *Brachycome aculeata*	Daisy
13. *Pimelea* sp. probably *P. alpina*	Alpine Rice-flower
14. *Bossiaea foliosa*	Leafy Bossiaea
15. *Pimelea axiflora* var. *alpina*	Bootlace-bush
16. *Olearia phlogopappa* var. *subrepanda*	Daisy-bush
17. *Ranunculus* sp. close to *R. lappaceus*	Common Buttercup
18. *Oreomyrrhis* sp.	Carraway
19. *Asperula* sp. probably *A. gunnii*	Mountain Wood-ruff
20. *Scleranthus biflorus*	Twin-flower Knawel
21. *Cotula alpina*	Alpine Cotula
22. *Celmisia asteliifolia* (broad-leaved form)	Silver Daisy
23. *Acaena anserinifolia*	Bidgee-widgee

Burramys in Captivity

When collected, the animal was docile. It was a juvenile, the pouch being scarcely visible. Water offered to it soon after capture was readily accepted. The rat-like tail was fully extended, and at that stage it made no attempt to coil it. Its weight soon after capture was 27 gm.

Diet: A mixed diet was offered to it, and seeds of the following native plants accepted: *Bossiaea foliosa, Hovea longifolia, Orites lancifolia, Oxylobium alpestre.* The tops of pods of these species were neatly decapitated and the seeds extracted. Fruit of *Leucopogon suavolens* (Mountain

Plate 3.

Vegetation in close proximity to *Burramys* site, which is indicated by paper marker at left of photograph.

Photo: Ivan M. Dixon

Beard-heath) which was not recorded from the study area was also eaten.

The area abounded in insect life, especially moths and grasshoppers. Various insect species from the study area and from other locations have been offered to *Burramys*, and the following species taken: *Orthodera ministralis* (praying mantis), *Teleogryllus commodus* (brown cricket), noctuid moths, grasshoppers Fam. Acrididae, *Antheria eucalypti* (emperor gum moth). It appears that insects are a desirable if not essential constituent of the diet of *Burramys*.

Artificial foods such as parrot seed, nuts, grapes are well tolerated by the animal, while honey and Penta-Vite have been given as dietary supplements. Nuts are carried away and stored by the animal. This gives some insight into its feeding habits in winter. After five weeks the animal weighed 36 gm, and showed evidence of maturation. The pouch, tightly closed at first, is now (April) quite marked.

Sound production: Occasionally small guttural noises are uttered, usually in response to some adverse situation which causes the animal some degree of stress.

Movements: Well adapted for climbing and jumping, *Burramys* makes only occasional prehensile use of its long tail. However, the distal end may curl lightly but firmly around a support when the animal is preparing to move from one place

to another. When it is awakened during the day, it often has the tail tightly coiled, in such a way that the caudal vertebrae are particularly apparent through the skin. When it runs and jumps, *Burramys* usually has the tail held almost straight out behind it like a rudder.

Grooming activities: These are particularly common when the animal has been repeatedly disturbed as in photographic work. The pattern of activity is similar to that shown by a number of small marsupials and native rodents. It squats on its hind feet and rubs one front paw after the other across the snout. The tail may be brought forward between the hind feet and carefully cleaned with the mouth and front feet.

Nest building: The animal has been housed in a stainless steel cage 42 x 31 x 23 cm, with an attached nest box 13 x 13 x 13 cm. Stainless steel mesh occupies the top and one side of the cage, and glass the other side. The cage appears to offer reasonable space for the animal except in the vertical dimension. Experiments will be conducted with a larger cage. Although it has been provided with the nest box, tussock grass, bark, leaf litter, pieces of shrubs and small rocks as well as cardboard cylinders a few inches in diameter, *Burramys* usually prefers to sleep in an open nest constructed of loosely woven tussock grass. It may cover this partially with other vegetation. No special runways have been made in the cage, which is to be expected with an arboreal or semi-arboreal species. It is apparent that larger observation areas are necessary for this type of information to be obtained.

Plate 4. *Burramys parvus* female, collected from Falls Creek area, Victoria, 23 February, 1971.

Photo: By courtesy "The Age"

MORPHOLOGICAL COMMENTS

The colour and form of the animal are very similar to the first specimen from Mt. Hotham, except that it is much smaller. The most obvious feature by which the species may be recognised externally is the long tail. The body fur continues for about 1 cm. along the tail, and beyond this the tail is almost naked (Plate 4). The following are the dimensions for our specimen: Total length 235 mm., tail 142 mm., ear 16.5 mm., hind foot 16.0 mm.

The pouch has been examined and nipples found to be four in number, arranged in two pairs, one pair on each side situated postero-laterally with one nipple of each pair located behind the other.

The teeth have been examined while the animal was anaesthetised with ether, and the premolar teeth seen to exhibit the sectorial form typical of *Burramys parvus* (Plate 5).

Plate 5.

Left mandible of Mt. Hotham specimen of *B. parvus*, male, C7290, Nat. Mus. Vict., showing sectorial premolar. x 2½.

Photo: F. Guy.

Acknowledgments: The author extends thanks to the following persons who assisted in various ways before, during and after collection of the specimen. Dr. I. McT. Cowan, University of British Colombia; the Spargo family, Falls Creek; Mr. T. B. Muir, National Herbarium; Mr. N. A. Wakefield, Monash Teachers College; Mr. E. D. Gill, Deputy Director, National Museum of Victoria.

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